

REMARKS

Claims 1-4 were presented for examination and were pending in this application. In the latest Office Action, claims 1-4 were rejected. With this amendment, claims 3 and 4 are amended, claims 1 and 2 are canceled, and new claims 5-9 are added. On the basis of the following remarks, consideration of this application and allowance of all pending claims are requested.

The drawings were objected to as not showing the fan housing attached to a computer chassis. In response, Applicant submits herewith an amended version of FIG. 4, which shows a fan assembly attached to a computer housing in accordance with one embodiment of the invention. Support for this drawing amendment can be found, inter alia, in paragraph 15, which has also been amended to add a reference numeral for the computer chassis (170) and to correct a typographical error. Accordingly, no new matter has been added.

Claim 1 was rejected as anticipated by U.S. Patent No. 6,896,095 to Shah et al. Claim 1 has been canceled, and this rejection thereby mooted.

Claims 1-4 were rejected as made obvious by U.S. Patent No. 6,496,368 to Jui-Yuan in view of Shah. Claims 1 and 2 have been canceled, so the rejection with respect to those claims has been mooted. Claim 4 has been rewritten in independent form to include all of its base and intervening limitations, and the rejection with respect to claim 4 is respectfully traversed. Claim 3 has been amended to depend from claim 4, so it is patentable for the same reasons given for claim 4.

Claim 4 recites a fan assembly that features an inward concave arrangement for an inner face of its housing to reduce the distance between the housing and a center shaft of the fan blades. The fan assembly is attached to a chassis that also has a concave architecture to match

the inner face of the housing. These features shorten the distance between the fan housing and the fan as well as the distance between the chassis and the fan. In this way, a region of disturbed air emerging from the fan housing and chassis, and thus fan vibration and noise, can be reduced. The cited references, alone or in combination, fail to disclose or suggest these claimed features.

Jui-Yuan discloses a standard CPU fan that blows air over a CPU heat sink to cool it. As the examiner admitted, however, Jui-Yuan fails to disclose (1) a concave arrangement for the fan housing, and (2) a concave architecture of a computer chassis. To cure this deficiency the examiner cited Shah. But the problem with this rejection is that Shah also fails to disclose or suggest a concave architecture of a computer chassis. Shah merely describes a fan shroud for use in cooling liquid fuel cells systems for automobiles.¹ It is not surprising, therefore, that Shah does not even discuss a chassis, much less one having the claimed concave architecture.

The Office Action thus failed to cite anything in Shah that discloses a chassis having a concave architecture. To support the rejection, the Office Action cited col. 2, lines 13-17, but this passage only describes a general motivation of reducing noise in a fan — not how to do so. Moreover, this general suggestion that it is desirable to reduce noise is not a suggestion of the structural limitation recited in claim 4. In fact, Shah achieves noise reduction using a completely different structure (using resonators). Because the combination of references suggested in the Office Action does not meet each claim limitation, claim 4 is patentable over the combination.

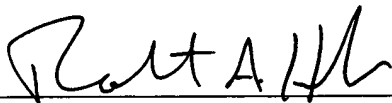
In addition, because the cited references fail to disclose a chassis having one or more openings for allowing an airflow therethrough, where at least a portion of the chassis that has the openings is concave, newly added claims 5-9 are also patentable over the cited references.

¹ Contrary to the statement in the Office Action that Jui-Yuan and Shah are in the same field of “cooling heat sinks of electronic devices using axial flow fans,” Shah is not related in any way with cooling heat sinks in computers.

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,
KUO YI-LUNG

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AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to FIG. 4. This sheet replaces the original sheet including FIG. 4.

Attachment: Replacement Sheet